

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of:

Pearson et al.

Serial No.: 10/772,121

Group Art Unit: 1796

Filed: February 4, 2004

Examiner: P. Szekely

For: POLYMER BLENDS

Mail Stop Appeal Brief - Patents
Commissioner for Patents
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REPLY BRIEF

This is a reply to the Examiner's Answer dated July 16, 2009.

Appellants appreciate the Examiner's effort in simplifying the issues on appeal by reducing the number of applied references from 24 to 8. Appellants also appreciate the Examiner's statement of the differences between the prior art and the claims at issue. In this regard, the Examiner states that "the primary references do not show the ratios of the different monomers making up applicants' claimed polyesters." *Ex. Ans.* at 5. While this may be true, it is not a difference reflected in representative claim 1.

One of the differences between claim 1 and the primary references is that the primary references do not disclose or suggest a polyester-polycarbonate (PES/PC) blend comprising the combination of a phosphorus-containing compound and a hindered amine light stabilizer (HALS). While Hashimoto and Ono both mention PC and PES, the polyester is an optional component. See Hashimoto at col. 3, lines 44-46; Ono at col. 3, lines 31-32. Moreover, while both documents mention a phosphorous-containing (hereafter "P-containing") compound and a HALS, those ingredients are also optional. See Hashimoto at col. 22, lines 53-55; Ono at col. 21, lines 63-65 and col. 28, lines 9-11.

While it may be *prima facie* obvious to combine known ingredients for their known functions, that is not the case here. In the present invention, the HALS is being employed for an unknown function. HALS's are traditionally known as optical or light

stabilizers. See Hashimoto at col. 24, lines 21-24; Ono at col. 28, lines 10-11. As such, they stabilize the polymer composition from degradation caused by light. On the other hand, the present invention employs the HALS as a hydrolytic stabilizer, i.e., to prevent degradation from exposure to moisture.

Appellants discovered the problem that P-containing catalyst quenchers can cause hydrolytic instability in PES/PC blends, particularly of the PC component. This problem can be seen by comparing Examples 1 and 2 in the present application. Example 1 shows that there was relatively little change in the molecular weight of the PC in a PES/PC blend with no P-containing additive after 3 minutes of exposure at 70 °C and 100% relative humidity. On the other hand, Example 2 shows that the PC molecular weight decreased greatly at the same conditions when the blend contained 0.25 wt% of a P-containing additive. Neither Hashimoto nor Ono mentions this problem.

Appellants also surprisingly discovered a solution to this problem. The solution is the use of a HALS. Examples 3-5 in the present application show that adding a HALS to a PES/PC blend containing a P catalyst quencher can substantially reduce the detrimental effects of moisture on the molecular weight of the PC in the blend. Neither Hashimoto nor Ono mentions this solution -- using a HALS as a hydrolytic stabilizer.

Thus, Hashimoto and Ono do not disclose or suggest the problem or the solution addressed by the present invention.

The secondary references do not remedy the deficiencies of Hashimoto and Ono. They were only cited to show the Examiner's perceived difference between the present claims and the primary references, i.e., "the ratios of the different monomers making up applicants' claimed polyesters." *Ex. Ans.* at 5. None of the secondary references discloses or suggests the problem or solution addressed by the present invention. They don't mention that a P-containing catalyst quencher can cause hydrolysis of the PC in PES/PC blends. They also don't disclose using a HALS to stabilize such a blend.

Accordingly, the present claims are patentable over the applied references, and the rejection under § 103(a) in the Examiner's Answer lacks proper basis and should be overruled.

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